



ML	Drawing No. 596P61520	Rev. 3
----	--------------------------	-----------

## Material List

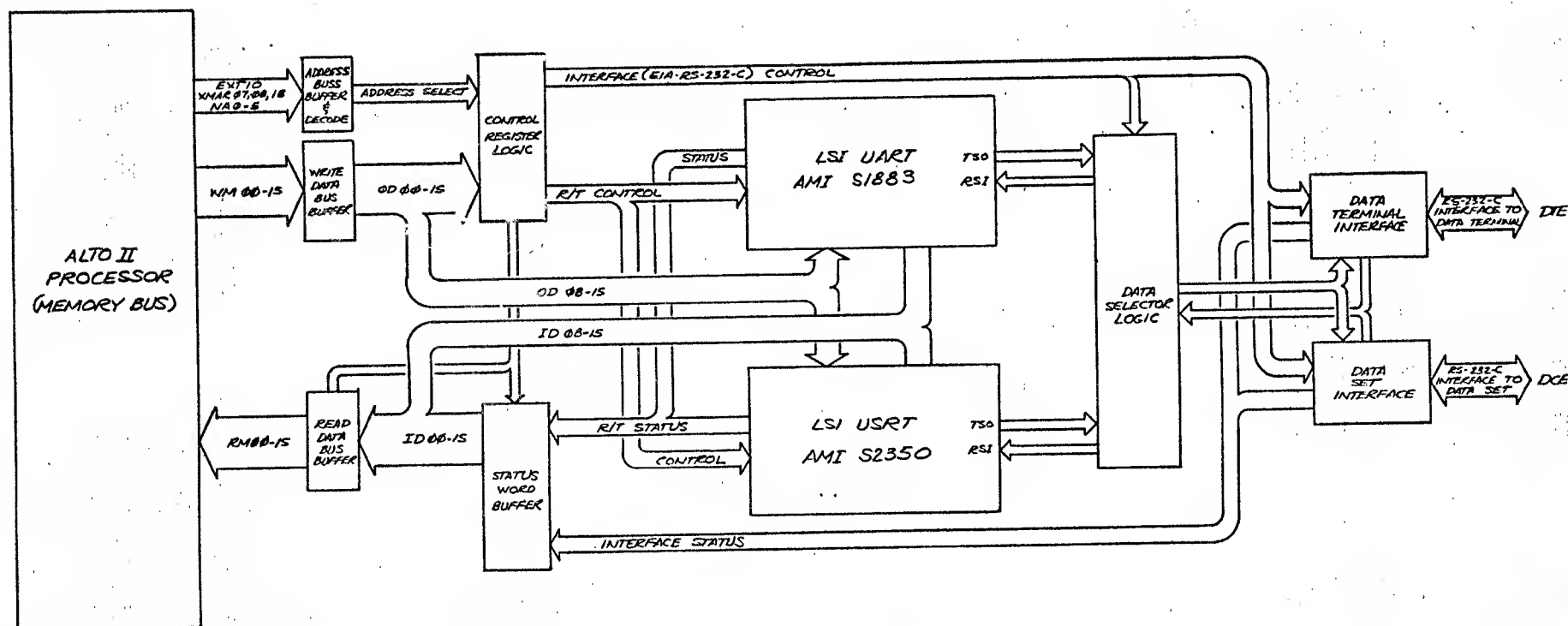
Rev.	Drawing Title		Model No.	Date	Sheet
	ALTO II SERIAL COMMUNICATION CONTROL			2/9/78	3 of 14
Drawing No.	Item No.	Drawing Title	Drawing No.	No. Req.	Remarks
ML	1	BOARD, GENERAL PURPOSE, WIRE-WRAP	596P61506A	1	
	2	MICROCIRCUIT 8T98N		15	A1, A9, A12, B1, C1, C2, C4, C9, C12, E1, E12, F1, F9, G1, G12
	3	74LS75N		2	A5, B5
	4	7485N		1	A6
	5	74LS02N		3	A8, B9, C6
	6	74LS174N		1	A10
	7	7438N		1	A11
	8	1489PC		3	A13, B13, G13
	9	74LS138N		2	B6, F10
	10	S2350P		1	B7
	11	74LS00N		5	B8, B11, F8, G9, G11
	12	7493AN		1	B10
	13	8T97N		10	B12, C3, C5, C8, E2, E3, E5, F5, F12, G5
	14	74LS30N		1	C6
	15	F4702PC		1	C10
	16	74221N		2	C11, A8
	17	1488PC		3	C13, E13, F13
	18	74LS175N		4	D2, D4, E10, G10
	19	7404N		1	D5
	20	74LS10N		2	E4, F11
	21	7425N		1	E9
	22	CD4011BE		1	E11
	23	7474N		3	F6, G6, G8
	24	MICROCIRCUIT S1883P		1	F7
	25	RESISTOR PAK, MONOLITHIC 316B272		6	A2, A4, B4, F4, G2, G4
	26	RESISTOR PAK, MONOLITHIC 316B242		6	A3, B2, B3, F2, F3, G3

## Material List

ML	Drawing No. 596P61520	Rev. B
----	--------------------------	-----------

Rev.	Drawing Title	Model No.	Date	Sheet
	ALTO II SERIAL COMMUNICATION CONTROL		219/78	4 of 14
Item No.	Drawing Title	Drawing No.	No. Req.	Remarks
27	RESISTOR PAK, MONOLITHIC 316B221		1	D7
28	SWITCH, DIP, SPST, 3-POSITION 76B03		1	D1
29	CAPACITOR PAK, MONOLITHIC. 936C103X0SR		1	D6
30	CAPACITOR, 15 $\mu$ f, 20V, TANT.,		10	
31	↑ 56pf, CER.		3	
32	↓ 33pf, CER		2	
33	↓ 390pf, CER		3	
34	CAPACITOR, 1.0 $\mu$ f, CER		2	
35	DIODE, IN4002		2	
36	DIODE, ZENNER, 12V		1	
37	TRANSISTOR, 2N3906		1	
38	RESISTOR, 68 $\Omega$ , 1/4W, $\pm$ 5%		1	
39	↑ 330 $\Omega$ , 1/4W, $\pm$ 5%		1	
40	390 $\Omega$ , 1/4W, $\pm$ 5%		1	
41	10M $\Omega$ , 1/4W, $\pm$ 5%		1	
42	16K $\Omega$ , 1/4W, $\pm$ 5%		2	
43	150 $\Omega$ , 1/4W, $\pm$ 5%		1	
44	43K $\Omega$ , 1/4W, $\pm$ 5%		1	
45	↓ 36K $\Omega$ , 1/4W, $\pm$ 5%		1	
46	RESISTOR, 510K $\Omega$ , 1/4W, $\pm$ 5%		1	
47	CRYSTAL, 2.45760 MHZ		1	

Rovatsiana				
LAL	Rev.	Description	Chk	Date



<p>These drawings and specifications, and the data contained therein, are the exclusive property of Xerox Corporation and/or Rank Xerox, Ltd. issued in strict confidence and shall not, without the prior written permission of Xerox Corporation or Rank Xerox, Ltd., be reproduced, copied or used for any purpose whatsoever, except the manufacture of articles for Xerox Corporation or Rank Xerox, Ltd.</p>	Notes Unless Specified	Date <u>4-1-77</u> <u>8/3/77</u> Check <u>3/3/77</u> <u>8/3/77</u> Appr. <u>[Signature]</u> <u>8-1-77</u> Material	ELECTRO-OPTICAL SYSTEMS 521 NORTH HALSTED STREET, PASADENA, CALIFORNIA 91107 TEL:	XEROX ALTO II SERIAL COMMUNICATION CONTROL BACK DIAGRAM	Code Ident. <u>12705</u> Siz- <u>6</u> Dwg. No. <u>596P61520</u> Change Letter <u>N/C</u>
	1. Tolerances .XX 2.03 Dimensional & 1/2" .XXX 2.010 2. Break All Sharp Ed. & 1/2" .810 Approx. 3. Mach. Surfaces <u>✓</u> 4. All Dim. in inches 5. All True Position Tolerances Apply at MMC	Finish	Scale	Do Not Scale Drawing	Sheet <u>5</u> OF <u>14</u>
	Model No. First Use	Next Assy. First Use			

### STATUS WORD FORMAT

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
D	CD	RI	SI			LINE	SRD	RD	TMT	SCR	FCT	RPE	FOR	RFE	INTP

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
1	0	0	0		LINE		DS	HD	S	STD	X		BAUD RATE		

B12	B13	B14	B15	B12	B13	B14	B15	B12	B13	B14	B15		
0	0	0	-50	BAUD	0	0	0	-2400	BAUD	0	0	-9400	BAUD
0	0	0	-75	BAUD	0	0	0	-9600	BAUD	0	0	-1300	BAUD
0	0	0	-134.5	BAUD	0	0	0	-4800	BAUD	0	0	-150	BAUD
0	0	0	-200	BAUD	0	0	0	-11800	BAUD	0	0	-110	BAUD
0	0	0	-600	BAUD	0	0	0	-12800	BAUD				

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
1	0	0	1	LINE			NDB		NPB	A/S	POE	MSB	X	X	X

B7	B8	DATA BITS
0	0	5
0	1	6
1	0	7
1	1	8

• INTERFACE STATUS (HIGH ORDER BYTE)

CD — CARRIER DETECT FLAG.

RI - RING INDICATOR FLAG.

SI - SEND INDICATOR FLAG: WI

01 - CLEAR TO SEND IF DATA SET INTERFACE IS SELECTED; REQUEST  
TO SEND IF DATA TERMINAL INTERFACE IS SELECTED.

SRD - REMOTE HALF-DUPLEX BREAK: IN HALF DUPLEX THIS BI

SRD - REMOTE HALF-DUPLEX SIGNAL, IN HALF-DUPLEX MODE, GOING TO A ZERO SIGNALS A BREAK BY THE REMOTE RECEIVING STATION.

- RECEIVER/TRANSMITTER STATUS (LOW ORDER BYTE)

RDA - RECEIVE DATA AVAILABLE.

TEMT - TRANSMIT BUFFER EMPTY.

SCR - SYNC CHARACTER RECEIVED (USRT).

FCT - FILL CHARACTER TRANSMITTED (USRT).

RPE - RECEIVE PARTY ERROR

ROR - RECEIVE OVERFLOW ERROR

RFE - RECEIVE FRAMING ERROR (UART)

- INTERRUPT FLAG (B15)

$$INTP - \overline{INTP} = \overline{D} + \overline{CD} + RI + \overline{SI} + RDA + TBMT + SCR + (\overline{SRD} \cdot SEND \cdot HDUP)$$

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
0	X	X	X	LINE			X	DATA FIELD							

backwards ~~4~~ (See BQPL stream package)

To set fill and sync  
char registers

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
1	0	1	0	LINE		F/S		DATA FIELD							

F/S - WHEN SET CAUSES DATA FIELD TO BE LOADED INTO USRT TRANSMITTER FILL CHARACTER REGISTER. WHEN NOT SET DATA FIELD WILL BE LOADED INTO USRT RECEIVER SYNC CHARACTER REGISTER.

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
1	0	1	1	LINE			D	RR	RR	X	X	X	X	X	X

D -- GENERATES A LINE DISCONNECT/MASTER CLEAR OF THE SELECTED LINE WHEN SET.

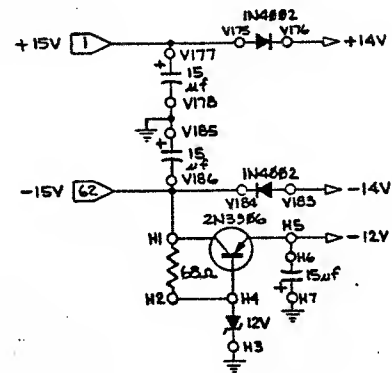
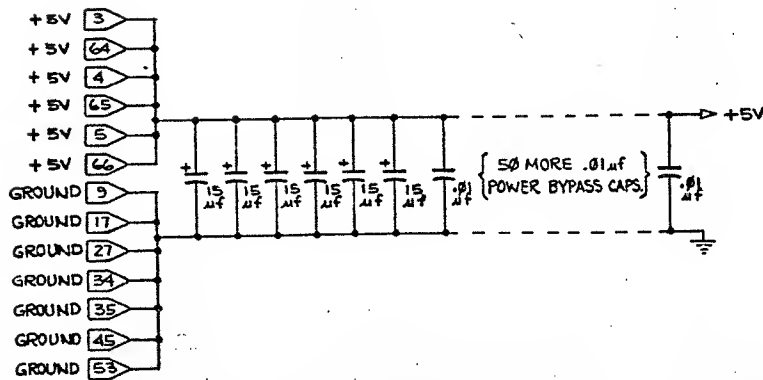
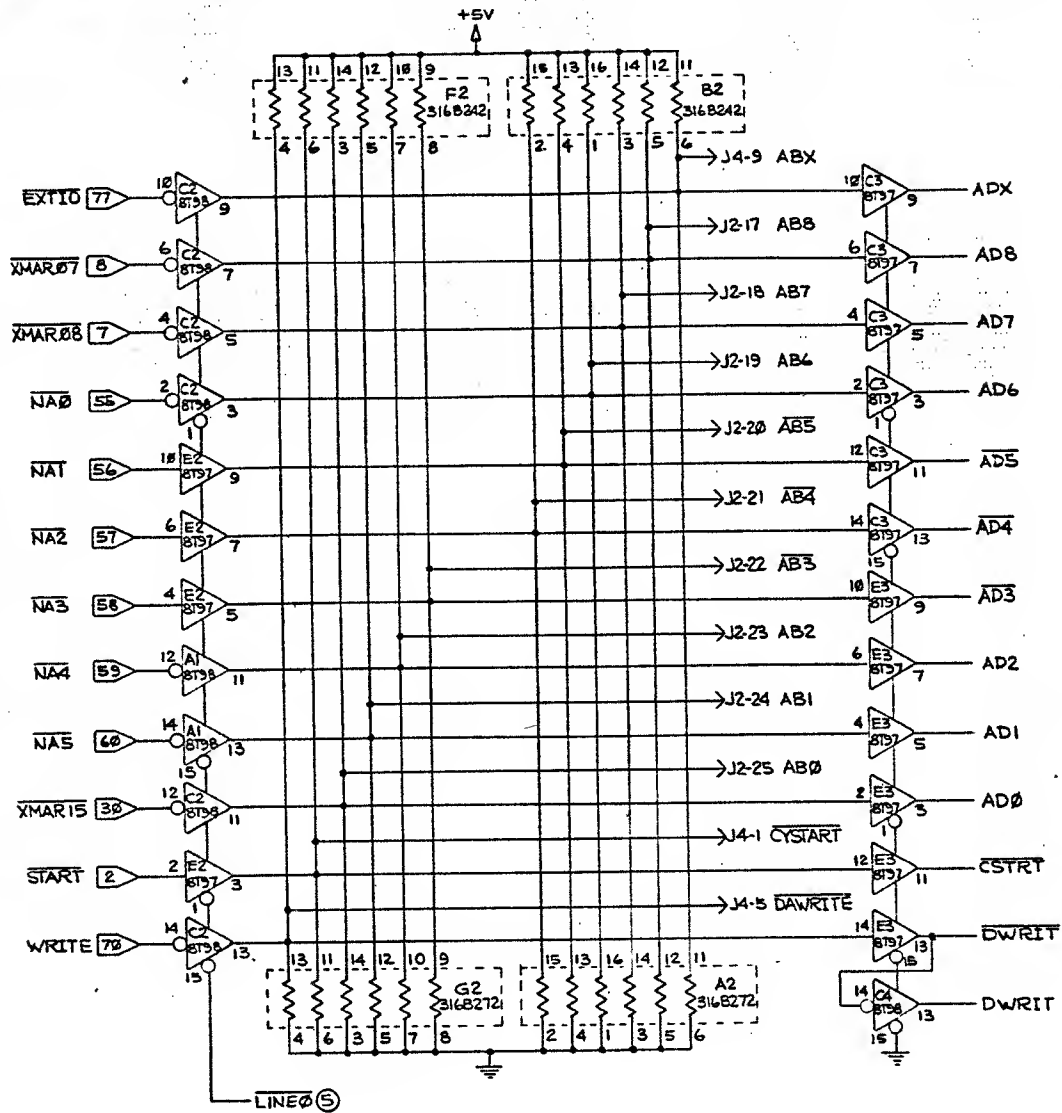
RRT - CLEARS THE RECEIVER/TRANSMITTER (UART/USRT) WHEN SET.

RR - RESETS SYNCHRONOUS RECEIVER, CLEARS STATUS REGISTER, RESTARTS SYNCHRONOUS RECEIVER IN THE BIT TRANSPARENT MODE FOR SYNC SEARCH.

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
1	1	0	0	LINE			X	X	X	X	X	X	X	X	X

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
1	1	0	1	LINE			x	x	x	x	x	x	x	x	x

PRINT DISTRIBUTION			THESE DRAWINGS AND SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF XEROX CORPORATION, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF XEROX CORPORATION, BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR XEROX CORPORATION.	MATERIAL-XEROX SPEC NO.	TOLERANCES UNLESS OTHERWISE SPECIFIED		DR. <i>4-15-78</i> CHK. <i>11</i>	<b>XEROX</b> CORPORATION NAME ALTO II SERIAL COMM. CONTROL - SCHEMATIC DIAGRAM
				FINISH-XEROX SPEC NO.		ANGLES	M.E. APPD. <i>11</i>	
							E.E. APPD. <i>8/25 2/16/78</i>	
					DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS, ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES		APPD. <i>11</i>	
				DO NOT SCALE DRAWING	SURFACE QUALITY ON MACHINED SURFACES UNLESS OTHERWISE SPECIFIED <i>✓</i>		DWG A SIZE SH 6 of 14	



- NOTES: 1. CIRCLED N<sup>o</sup> (Ⓢ) APPENDED TO SIGNAL NAMES INDICATE SHEET N<sup>o</sup> WHEREON SIGNAL ORIGINATES.
2. SYMBOL 12 INDICATES J1 CARDEDGE CONNECTOR PIN CONNECTION TO MOTHERBOARD BACKPLANE.
3. UNLESS OTHERWISE INDICATED, +5V TO PIN 14 FOR 14-PIN DIP AND PIN 16 FOR 16-PIN DIP, AND GROUND TO PIN 7 FOR 14-PIN DIP AND PIN 8 FOR 16-PIN DIP I.C.s.

# MEMORY ADDRESS & CONTROL BUS BUFFER LOGIC

PRINT DISTRIBUTION		MATERIAL-XEROX SPEC NO.	TOLERANCES UNLESS OTHERWISE SPECIFIED		DR. 4-32 JESCHKE 1/10/70	XEROX CORPORATION	
				ANGLES	CHK. 1/1	NAME ALTO II SERIAL COMM. CONTROL-SCHEMATIC DIAGRAM	
		FINISH-XEROX SPEC NO.	DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS, ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES		E.E. APPD. 2/6/70	DWG A	596P61520
			DO NOT SCALE DRAWING		APPD. 2/6/70		
			SURFACE QUALITY ON MACHINED SURFACES UNLESS OTHERWISE SPECIFIED		✓	SIZE SH 7 OF 14	REV. B

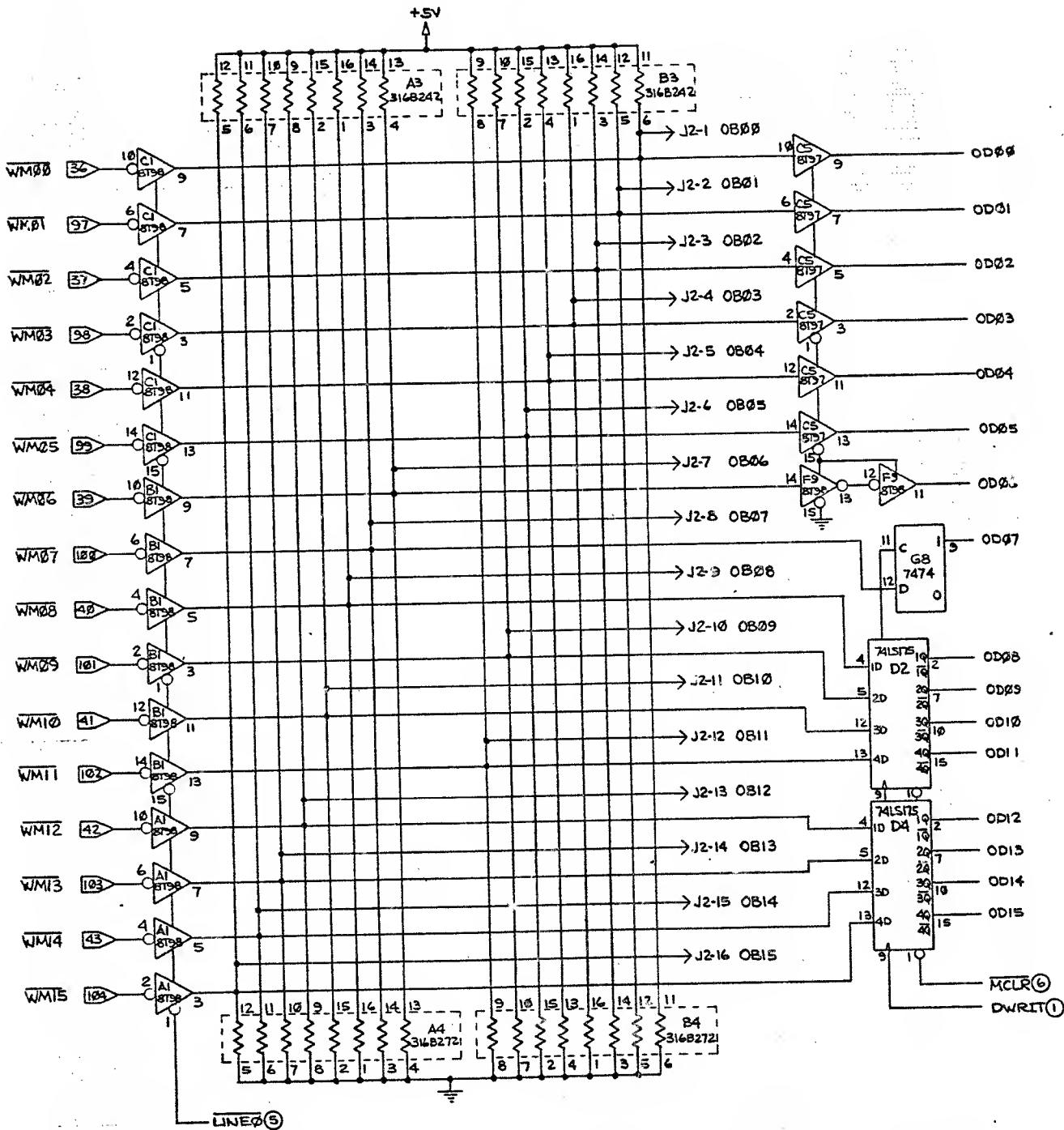
E

D

C

B

A



MEMORY WRITE BUS BUFFER LOGIC

PRINT DISTRIBUTION	THESE DRAWINGS AND SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF XEROX CORPORATION, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF XEROX CORPORATION, BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR XEROX CORPORATION.	MATERIAL-XEROX SPEC NO.	TOLERANCES UNLESS OTHERWISE SPECIFIED		DR. <i>[Signature]</i> / 1/1	XEROX CORPORATION	NAME ALTO II SERIAL COMM. CONTROL-SCHEMATIC DIAGRAM	DWG A 596P61520	REV. B
			FINISH-XEROX SPEC NO.		CHK. / /				
			DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS, ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES		M.E. APPD. / /				
			DO NOT SCALE DRAWING		E.E. APPD. 2/16/78				
SURFACE QUALITY ON MACHINED SURFACES UNLESS OTHERWISE SPECIFIED		APPD. / /		✓		SIZE SH 8 of 14			

E

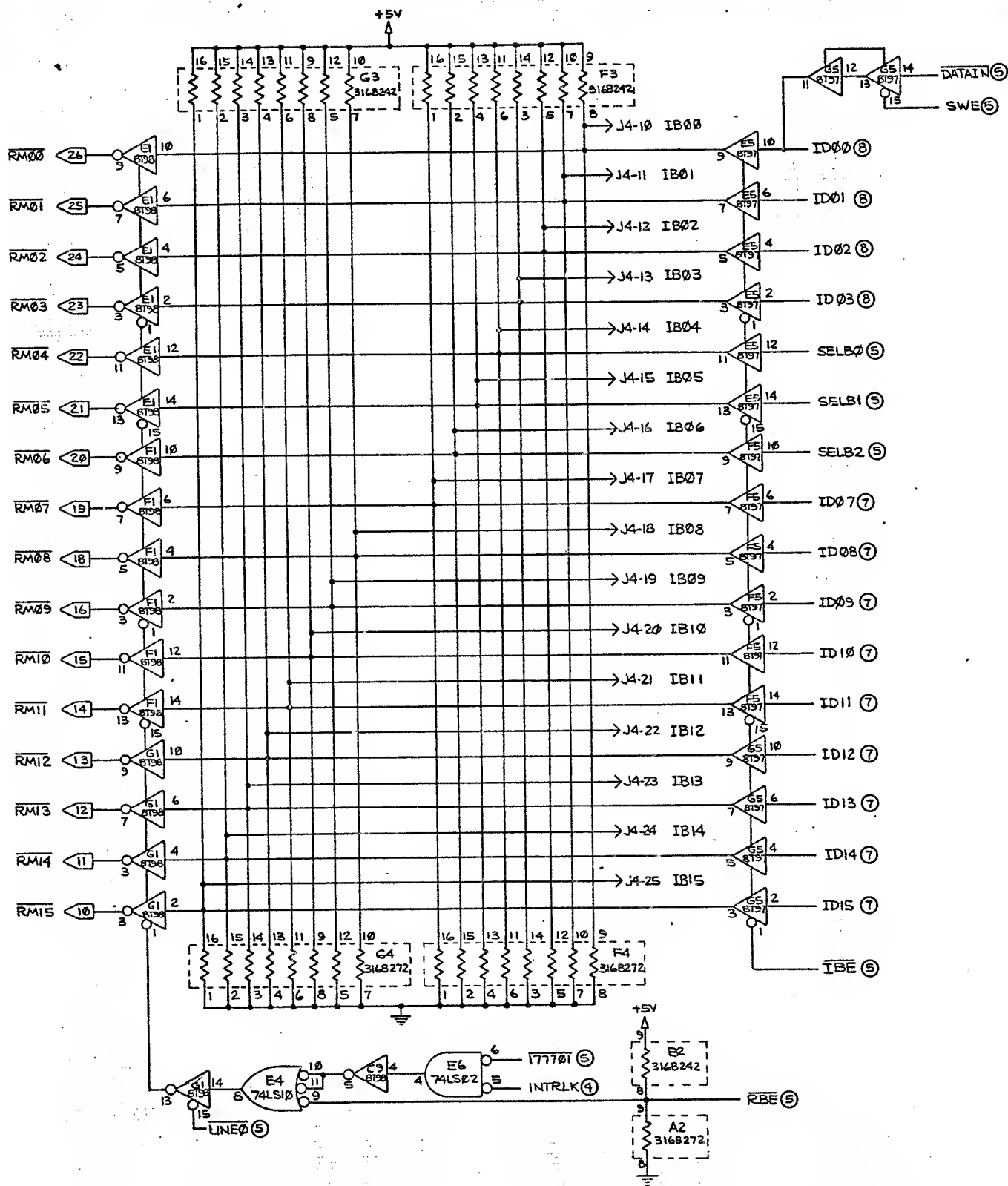
D

C

B

A





MEMORY READ BUS BUFFER LOGIC

PRINT DISTRIBUTION			THESE DRAWINGS AND SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF XEROX CORPORATION, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF XEROX CORPORATION, BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR XEROX CORPORATION.	MATERIAL-XEROX SPEC NO.	TOLERANCES UNLESS OTHERWISE SPECIFIED		DR. <i>[Signature]</i> 13V78	<div>XEROX CORPORATION</div> <div>NAME ALTO II SERIAL COMM. CONTROL-SCHEMATIC DIAGRAM</div> <div>DWG A 596P61520 REV. B</div> <div>SIZE SH 9 OF 14</div>	
				FINISH-XEROX SPEC NO.		ANGLES	M.E. APPD. <i>[Signature]</i>		CHK <i>[Signature]</i> //
							E.E. APPD. <i>[Signature]</i>		//
					DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS, ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES		APPD. <i>[Signature]</i>		//
				DO NOT SCALE DRAWING	SURFACE QUALITY ON MACHINED SURFACES UNLESS OTHERWISE SPECIFIED		<input checked="" type="checkbox"/>		

E

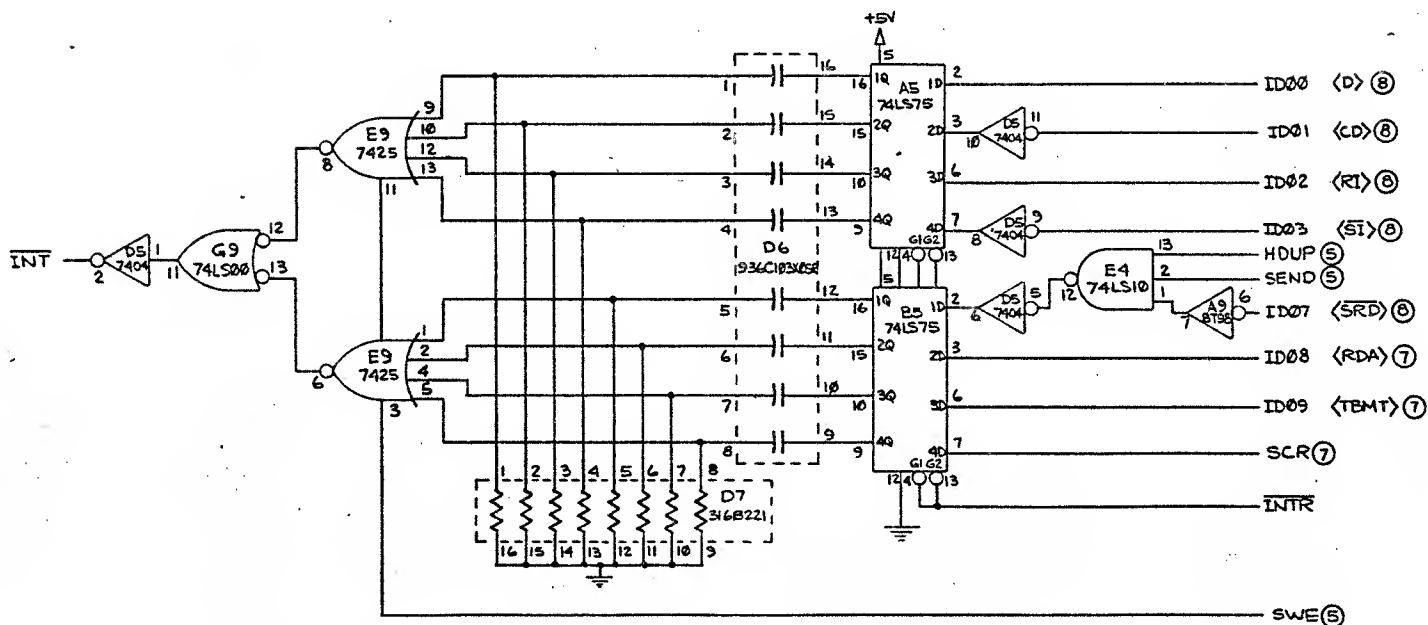
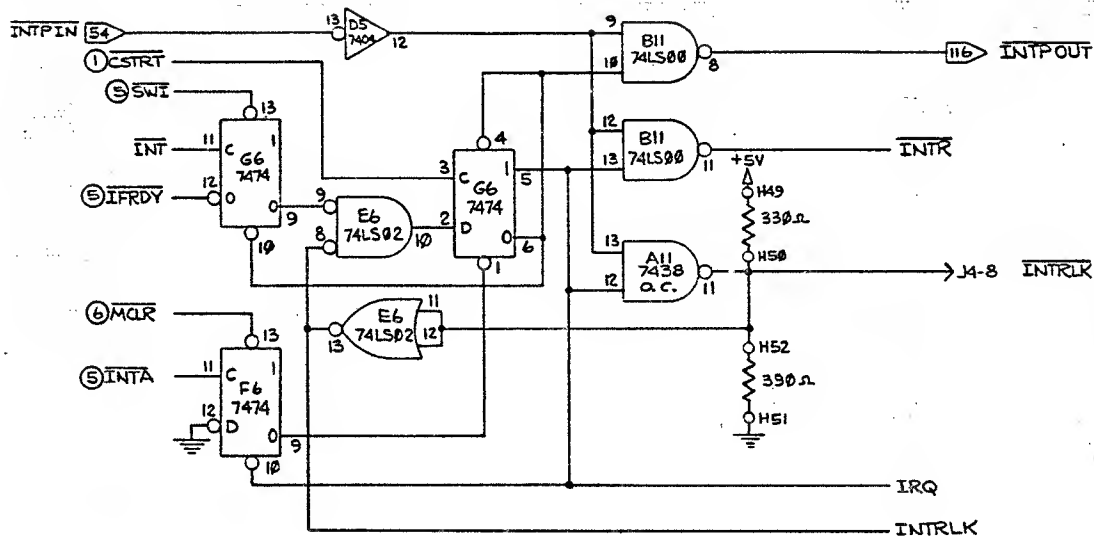
D

C

B

A

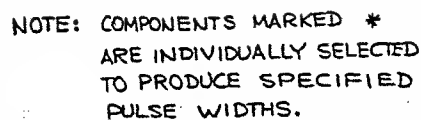




# INTERRUPT LOGIC

<p>PRINT DISTRIBUTION</p>	<p>THESE DRAWINGS AND SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF XEROX CORPORATION, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF XEROX CORPORATION, BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR XEROX CORPORATION.</p>	<p>MATERIAL-XEROX SPEC NO.</p>	<p>TOLERANCES UNLESS OTHERWISE SPECIFIED</p>	<p>DR. <i>6/2/78</i> / <i>3/18</i></p>	<p><b>XEROX</b> CORPORATION NAME ALTO II SERIAL COMM. CONTROL SCHEMATIC DIAGRAM</p>
<p>E</p>	<p>D</p>	<p>C</p>	<p>B</p>	<p>A</p>	<p>REV. B</p>

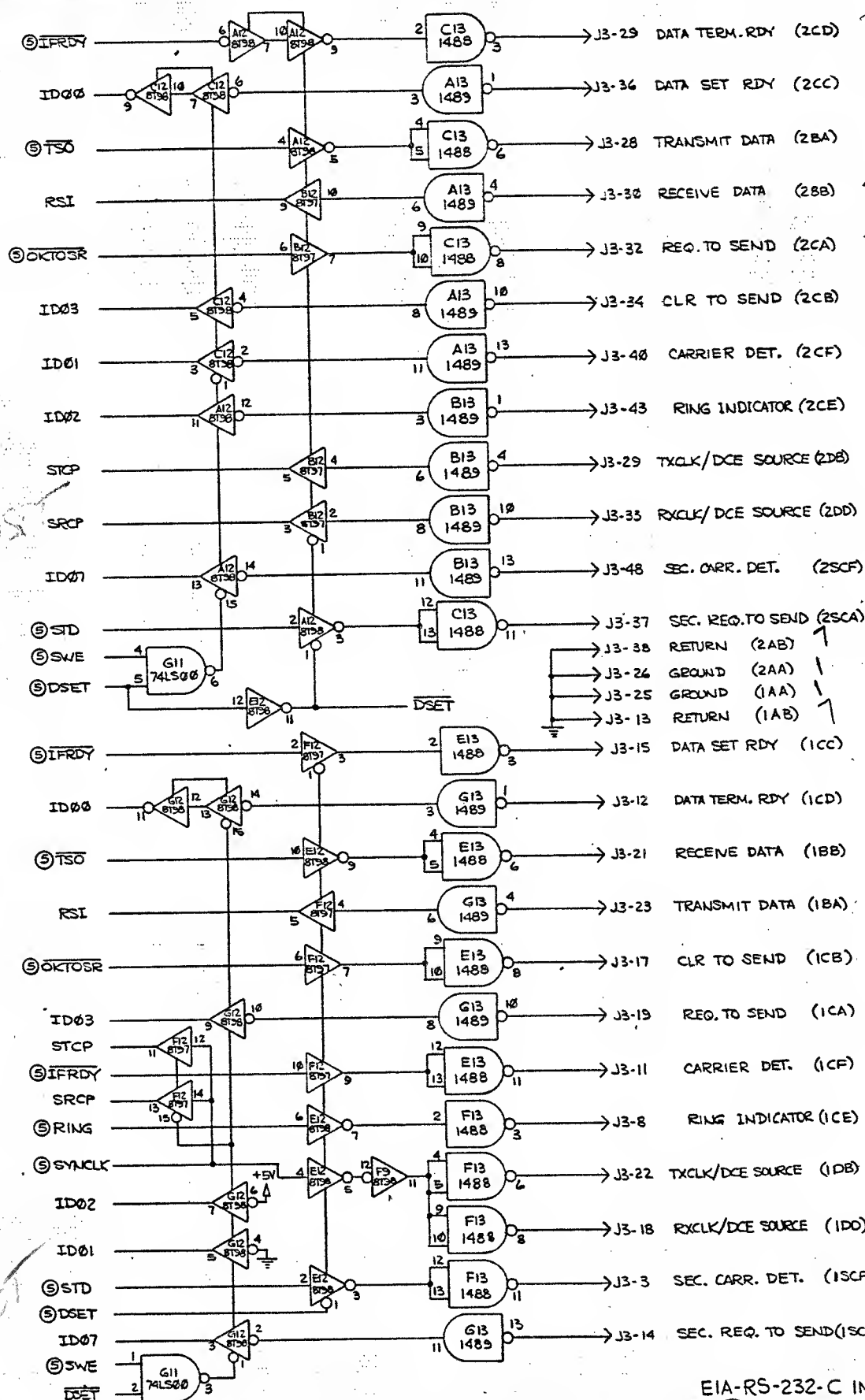




PRINT DISTRIBUTION	THESE DRAWINGS AND SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF XEROX CORPORATION, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF XEROX CORPORATION, BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR XEROX CORPORATION.	MATERIAL-XEROX SPEC NO.	TOLERANCES UNLESS OTHERWISE SPECIFIED		DR. <i>4-25-78</i> 1/31/78	XEROX CORPORATION	
					CHK. <i>11</i>		
		FINISH-XEROX SPEC NO.	ANGLES		M.E. APPD. <i>11</i>	NAME ALTO II SERIAL COMM. CONTROL SCHEMATIC DIAGRAM	
					E.E. APPD. <i>2-16-78</i>		
DO NOT SCALE DRAWING		DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS, ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES		APPD. <i>11</i>	DWG A	596P61520	REV. B
				SURFACE QUALITY ON MACHINED SURFACES UNLESS OTHERWISE SPECIFIED <i>✓</i>	SIZE	SH 12 OF 14	

A





DSET true  
i.e. talk  
with a DSET

DSET false  
i.e. talk  
as a DSET

EIA-RS-232-C INTERFACE LOGIC

PRINT DISTRIBUTION			THESE DRAWINGS AND SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF XEROX CORPORATION, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF XEROX CORPORATION, BE REPRODUCED, COPIED, OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT THE MANUFACTURE OF ARTICLES FOR XEROX CORPORATION.	MATERIAL-XEROX SPEC NO.	TOLERANCES UNLESS OTHERWISE SPECIFIED			DR. <i>J. J. J.</i> 1/31/78 CHK. <i>11</i>		XEROX CORPORATION		
							ANGLES	M.E. APPD. <i>11</i>	E.E. APPD. <i>2/6/78</i>			
					FINISH-XEROX SPEC NO.	DEVIATIONS FROM INTENDED SHAPE (FLATNESS, ROUNDNESS, SQUARENESS, ETC.) MUST BE WITHIN STATED DIMENSIONAL TOLERANCES			SURFACE QUALITY ON MACHINED SURFACES UNLESS OTHERWISE SPECIFIED <i>✓</i>		NAME ALTO II SERIAL COMM. CONTROL SCHEMATIC DIAGRAM	
					DO NOT SCALE DRAWING				DWG A		536P61520	
										SH 14 OF 14		